

MES Solutions for small and mid-sized ETO/project-based manufacturers

### **PTS system: Production Process Matrix**

The core of the BW&A Production Tracking and Scheduling (PTS) system is the multi-level **Production Process Matrix (PPM)** that records and stores data on all the tasks that make up the production processes for each of the company's products. This data is referred to as the "production map" for each product.

The PPM – which is essentially the PTS system database – is built around the tasks/processes that are common to each product, and records the task descriptions and data on task sequences and interdependencies that are needed to produce a production schedule for each product. In addition, the matrix retains each product's target and actual labour resource usage and hours by task. The matrix is structured to provide reporting at three levels: task detail and two summary levels. The summary levels are defined by each company's requirements.

When an estimate/quote is required for a new product order, the matrix can substantially reduce the time needed to calculate the estimated labour costs for the order by providing the estimator with the production map, and actual labour hours and resource usage, for the closest equivalent product previously manufactured. Effectively this provides a basic production-mapping template that can be modified to reflect the configuration differences for the new product. Not only is this approach much faster than manually preparing estimates, the accuracy of the estimates also improves significantly.

In addition to facilitating labour cost estimates, the production mapping approach can be used to calculate estimated delivery dates, based on the next available production slot in the company's current schedule. Combining these processes with data from a bill of materials system creates a very effective estimating and quoting system. Later, when the quote has been accepted, the new production map becomes the basis for preliminary production planning, and the subsequent preparation of a production schedule.

**BW&A** works closely with each client to collect the data for the matrix, and our production management and engineering associates are available to provide hands-on guidance to support this process. The matrix can be developed in as much detail as needed for the production tracking and scheduling requirements of each client, and we deliver a fast turnaround of updates when changes are required.

The **PPM** can ultimately contain all the necessary resource allocation links – labour, materials, outwork and equipment – to provide fully integrated production tracking and scheduling.